CLAIMS

What is claimed is:

1. (currently amended) A method for fabricating a write pole tip for perpendicular recording, comprising:

A) fabricating a P1 write pole, coils and a P2 flux shaping layer;

B) depositing a P3 layer on said P2 flux shaping layer;

C) depositing a CMP stop layer on said P3 layer;

D) depositing at least one sacrificial layer on said CMP stop layer;

E) shaping said P3 layer into P3 pole tip;

F) removing said at least one sacrificial layer to leave said P3 pole tip; and

G) encapsulating said P3 pole tip in a protective layer.

2. (original) The method of claim 1, wherein:

said P3 layer material of B) is a material chosen from the group consisting of CoFe, CoFeN, NiFe, CoFe alloys, CoFeN alloys, NiFe alloys, Cr, Al_2O_3, and Ru.

3. (original) The method of claim 1, wherein:

said CMP stop layer material of C) is a material chosen from the group consisting of Al_2O_3, Ta_2O_5, SiO_xN_y, Al_2O_3 alloys, Ta_2O_5 alloys, SiO_xN_y alloys and insulation materials.

4. (original) The method of claim 1, wherein:

said at least one sacrificial layer of D) comprises a sacrificial layer PS of sacrificial material chosen from the group consisting of NiFe, NiP and plated materials with high ion milling resistances.

5.(original) The method of claim 4, wherein:

said at least one sacrificial layer of D) further comprises a seed layer of sacrificial material.

6. (previously presented) The method of claim 5, wherein:

said at least one sacrificial layer is formed by creating a cavity surrounded by photo-resist material, said cavity then being filled with sacrificial material.

7. (original) The method of claim 1, wherein:

said shaping of said P3 layer of E) is done by ion milling.

8. (previously presented) The method of claim 7, wherein:

said ion milling is done to first produce a straight-sided structure, as said at least one sacrificial layer masks said P3 pole tip, and then said CMP stop layer acts as a secondary mask as ion milling is used to bevel the sides of said P3 pole tip.

9. (original) The method of claim 8, wherein:
said beveled sides of said P3 pole tip are beveled to an angle with the range of 8 degrees to 15 degrees.

10. (original) The method of claim 1, wherein:
said finished P3 pole tip has a width less than 200 nm.

11. (withdrawn) The method of claim 1, wherein:
said removing of said at least one sacrificial layer of F) further comprises removing said CMP stop layer.

12. (withdrawn) The method of claim 11, wherein:
said removing of said CMP stop layer comprises using Chemical Mechanical Polishing.

13. (original) The method of claim 1, wherein:
said encapsulating material of G) comprises material matching that of said CMP stop layer.

14. (withdrawn) The method of claim 1, wherein:
said at least one sacrificial layer of D) comprises magnetic material; and
said removing said at least one sacrificial layer of F) requires that all of said magnetic material of said at least one sacrificial layer be completely removed.